P

Bon
Pho
Pho
Roc
Rock
uo
Roc
Am
Sod
P assium
Pota
Pota
Pot

Pota
Pot

Pota
Pota

RI

(7)

Comments on Draft Recommendation on, of NOSB
Livestock Committee Livestock Feed Ingredients
December 20, 2001
Email Attachment

I offer the following comments for the record.

Item 1. Coordination of recommended ingredients to include those in the CFR and the AAFCO Official Publication is very reasonable and sound. This should make the issue less complicated and more scientific.

Item 2. NOP should not establish requirements for carrier substances. Carriers are used in feeds for nonnutrient purposes, but serve the important function of enhancing dispersement and proper utilization of a particular nutrient. These two functions, which are actually one, are extremely important.

Item 7. Substances allowed in processed organic foods should be allowed in feeds given to animals raised for organic meat. This is all too obvious, both logically and scientifically.

If you have questions you may call me at 302-855-7108.

Thank you,

Spangler Klopp, DVM, Dpl ACPV
Corporate Veterinarian

OrgDisc3122001com

(8)

January 10, 2002

National Organic Standards Board
c/o Katherine Benham
Room 2510-South Building
1400 Independence Avenue
Washington D.C. 20250

RE: Comment on Draft Recommendation on Livestock Feed Ingredients (10/15/01)

John Clark, Ph.D. Biochemistry, University of California (Berkeley) and Owner, Roseland Organic Farms, Cassopolis, Michigan; 1800 livestock and grain farm
Merrill Clark, charter member, National Organic Standards Board ('92-'96) and Livestock Committee Chair; Member, Michigan Organic Advisory Committee, and co-owner, Roseland Organic Farms, Cassopolis, Mi.

I. Regulatory Basis for Using Synthetics (in otherwise 100% Organic Livestock Feed)

As chair of the NOP Livestock Committee from 92-96, I submit that the "requirement" that livestock producers provide livestock with a "feed ration that satisfies the animal's need for sufficient vitamins and minerals" is **not** to be read as the need to supply them with **synthetic vitamins, minerals and other attendant carriers, adjuvants, etc.** The OFPA clearly states that animals to be raised and marketed as organic must have been fed "100% organic feed", i.e. organic hay, alfalfa, orchard grass, clovers, other legume plants, corn, spelt, oats, barley, canola seed, sunflower seed, rye, buckwheat and more, plus clean, uncontaminated water. This new draft recommendation appears to claim these naturally growing, organically raised feeds are not enough with which to "satisfy an animal's need for sufficient vitamins and minerals" to stay healthy and productive. We totally and heartily disagree, mainly because we and others like us have been raising and marketing healthy beef animals on organically raised feeds..period.. for over 15 years.

Now, in Part I., instead of understanding that notion, there is a convoluted discussion about the CFR and GRAS (FDA) materials, stating that even though the CFR contains an "**extensive** list of allowed feed additives" which, however, is not **"exhaustive"** enough, and it is just too complicated to get new materials in the CFR, the NOP will simply use the AAFCO conventional chemical list as appropriate for the use of organic animal producers. All of this is totally backward thinking and unacceptable.

Do officials at FDA who use the CFR Official Publication on Animal Feed Ingredients or the Association of American Feed Control Officials have any credentials with which to determine what feed ingredients are appropriate or even necessary for **organically raised livestock?** If all we needed to do was to contact conventional sources for information on what's been allowed for animal producers across the country to feed their animals, we would not have needed section on **organic** livestock production and feeding in the OFPA in the first place. Again, the GRAS list exists for determining requirements in **conventionally grown or processed foods and feeds ... not organic food or feed.** Haven't we been able to distinguish between organic and conventional food and farming...YET?

Thankfully, the materials in Section 57 ... conventionally derived animal by-products ... such as bone meals, etc. are not allowed, but even that list is not very exhaustive. Would **blood meals, feather meals**, etc also be prohibited? We would state that they should be.

II. Carriers in Feed Additives and Supplements

For convenience sake, it looks as though NOSB and NOP are just not going to worry about those carriers, derived from **conventionally raised,** possibly GMO-treated corn, starch, soy, vegetable oil, etc. These are often synthetic materials, and possibly contaminated with the synthetic fertilizers and pesticides with which they are grown, **and are not identifiable on the label.** The necessary use of questionable carriers is just another reason why conventionally formulated feed ingredients for use with organically raised animals are not acceptable.

The statement that "they are only functional" and do not "meaningfully affect the nutritional content of the feed ration" seems to suggest that no one needs to be concerned about them at all. Yet, how are they functional and how essential, in the long run for organic production purposes, is this functionality?

III. Preservatives in Formulated Feed and Feed Ingredients

The recommendation that these synthetics be allowed for use in feed ingredients for organically raised animals only on a case by case basis, after in-depth deliberation, is a good one. However, it will no doubt lead to a slippery slope of more allowances once one is "let in". Again, how essential is it that all this deliberation take place on otherwise synthetic materials so as to allow their use in additional feed ingredients, **yet to be shown to be necessary to the health and well-being of organically raised animals?**

IV. Definition of Mammalian and Poultry Slaughter By-Products

Inasmuch as this section means all animal and poultry by-products cannot be used as feed supplements for organically-raised animals, we are supporti We are assuming that this refers to blood, feather, leather, hair and organ by-products. However, **we do question** the break with this ruling to allow for the **use of gelatin from any mammalian or poultry source.** Why was this by-product selected out as suitable for organic animal feed additive? This section talks about "additional guidance on the definition of certain by-products" is still called for during the implementation of the Final Rule. What additional guidance took place wrt the allowance for gelatin and why does it stand alone as an allowable substance apart from all the other questionable animal by-products? It is a by-product just as are all the other

Are these non-allowances referring to by-products from organic as well as conventionally-raised animals?

V Enzymes as Feed Ingredients

Enzymes would be needed only as shortcuts to 100% organic feed, should therefore be prohibited. They are disqualified under the law because they a synthetic,and/or synthetically derived or extracted, and/or most probably from non- organically produced organisms. Enzymes are also preeminently replaceable by organically produced feed components!

VI. Probiotics as Feed Ingredients

Probiotics should not be necessary in organically managed production (except in transition of soil from chemical farming). Livestock raised on organic land with biologically active soil should never need probiotics. They are needed only to reinoculate systems sterilized by antibiotic use, which is prohibited in organic livestock production. Why, therefore, would any provision for probiotics be made for livestock. Animals are able to inoculate themselves by consumption of microbes in soil from feed and forage (always splashed or dusted with microscopic soil particles) or deliberately ingesting soil by individual animals in their natural behaviors.

Synthetic Nonagricultural Substances Allowed as Feed Ingredients

Here is a perfect example of the "slippery slope", when referring to inputs allowed by NOSB. Not only are far too many synthetics allowed in organic-labeled processed foods, they are now all deemed appropriate as feed inputs for organically-raised animals, because we all know that if it's OK for a human to consume such additives, it must be all right for an animal to consume such additives? Why? Humans make

their own choices, and humans are not consumed. Animals cannot make their own choices and they are consumed...by consumers who are expecting all organically raised animals to be fed 100% organic feed. This is a very bad precedent to be setting at the outset of the implementation of the Final Organic Rule and a wholly unnecessary precedent.

Again, we are talking about additives to extra feed ingredients not necessarily required in the healthy production of livestock. The NOSB and NOP appear to be acquiescing to a situation where livestock producers have not designed their organic farm operations to allow for the adequate pasturage and grain crop production needed by their animals. Instead of requiring that small or large animal producers have enough acres to allow for fresh green pasture and additional organic grain allotments, the NOSB and NOP have set in motion the almost certain drift toward confinement feeding operations for organically produced animals. "Feed" in a bag or a bottle from non-agricultural and synthetic sources can become par for the course and the Final Rule will be allowing it.

The access to the outdoors requirement put forth by the members of the first Livestock Committee was NOT included in the livestock standard to refer to the meandering of lackluster cattle in a fenced-in dirt paddock, yet this feed ingredient allowance may, in fact, be leading straight to that result.

After all my years on the Livestock Committee of the National Organic Standards Board, I can say that this set of recommendations is the most troubling. We certainly wish we had responded much earlier.

John and Merrill Clark
27427 M-60 west
Cassopolis, Mi 49031
616-445-8769 phone macmerrill@aol.com
616-445-8987 fax

Distributors of
NATURAL FERTI
and FEED ADI

hone 330-877-9356
330-877-4237

HIO EARTH FOOD, IN
5488 Swamp St., N.E.
HARTVILLE, OHIO 44632-9330

FAX

To: KATHERIN BENHAM *From:* LARRY RINGER

Pages: *Date:* January 14, 2002

Katherin Benham
Room 2510-South Building
1400 Independence Ave., S.W.
Washington, D.C. 20250-0001

Dear Ms. Benham:

This letter is to inform you of my opposition to the NOSB recommendations regarding livestock feed ingredients. I believe that for the most part these recommendations deviate from what is currently and historically considered to be an "organic" livestock program.

I have been involved as a grower and supplier in organic agriculture for over thirty years, have served on both the OCIA and OEFFA organic certification committees for seven years and have served on the OEFFA board. I have also worked with nutritionists, biologists, chemists, and livestock growers using organic livestock rations for thirty years without using any of the synthetics that are being recommended by the NOSB.

The NOSB recommends the allowance of synthetic vitamins and minerals including materials listed for such use in the AAFCO Official Publication Section 57. However, I do not believe that synthetic materials should be allowed in organic feed.

Two examples from Section 57 would be 57.27 Ammonium Sulfate and 57.16 Diammonium Phosphate. Ammonium Sulfate is a product resulting from the neutralization of sulfuric acid with ammonia resulting in 21% nitrogen and 24% sulfur. This mineral product is also used as a commercial fertilizer. Diammonium Sulfate is again a mineral product that would be allowed in livestock feed per this recommendation. It, too, is used as a common commercial fertilizer grade DAP. Both of these products are prohibited, as they should be, for use in growing crops to be fed to organic livestock. However, under the NOS they would be allowed to be fed directly to organic livestock.

This is just two examples of synthetic vitamins and minerals that should not be allowed in organic livestock production. There are many natural organic ingredients available that can be used by organic livestock producers.

I believe the NOSB recommendations on livestock feed ingredients need to be rewritten to keep them in line with what is currently and historically believed to be organically produced livestock. By allowing synthetic vitamins and minerals the NOSB recommendations have made organic livestock productions almost the same as what the organic community calls conventional. If organic consumers wanted conventionally produced meat, milk and eggs there would be no need for the NOP livestock standards.

Thank you for your consideration in this matter. Please feel free to contact me if you have any questions or comments on my input at:

Phone 330-877-9356
Fax 330-877-4237
e-mail oef72@aol.com

Sincerely yours,

OHIO EARTH FOOD, INC.

Larry Ringer
President

10

Keating, Mark

om: [redacted] Livestock, NOSB
nt: [redacted] Sunday, January 20, 2002 4:56 [redacted]
To: [redacted] Eric Sideman; Keating, Mark
Subject: FW: Draft Recommendation on Livestock Feed Ingredients, Oct 15, 2001

tmp.htm

From: [redacted] Llizabet K. Dwwyor[SMTP:SUNTERRA[redacted]
Sent: [redacted] Sunday, January 20, 2002 4:55:37 PM [redacted]
To: [redacted] Livestock, NOSB
Subject [redacted] Re: Draft Recommendation on Livest[redacted] 2001
Auto fo[redacted] by a Rule

am in general support of the proposal.

However, I noted the statement "provided that they are not derived from excluded methods" for NOSB recommendations under items V and VI was omitted for all other items in this recommendation. This may give the impression that excluded methods are allowed for other items discussed, where potentially an issue, such as carriers in feed supplements.

I suggest to state clearly up front or for each recommendation, where applicable, that substances made with or derived from excluded methods are not allowed in livestock production, except for vaccines as per NOP 205.105 (e).

nTerra Environmental
Lizabet K. Dwwyor, IOIA Accredited Organic Inspe[redacted]
P.O. Box 1013
Nanton, Alberta T0L 1R0 Canada
Ph:403-646-2405 Fax:403-646-5992 [redacted]

Organic Trade Association Proposes Refinements Regarding Carriers to the National Organic Standards Board's Recommendation on Livestock Feed Ingredients

Tom Hutcheson
January 24, 2002

The Organic Trade Association (OTA) supports the general direction of National Organic Standards Board (NOSB) recommendation on livestock feed ingredients. With regard to carriers in feed additives, OTA believes the policy needs to address the problem of GM sources in these materials, but supports allowing incidental use of non-organic ingredients, provided they do not replace nutrient value in the organic feed.

Carriers in vitamin and mineral packs may contain conventional corn and soy products or their derivatives that are added to the formulation, and OTA feels that these carriers should still be restricted to those verified from non-GMO sources. OTA acknowledges that some fat-derived vitamins (such as A, D, and E) that are obtained from vegetable oils are difficult or impossible to obtain from non-GM sources, and believes a policy permitting these sources should also be developed.

Finally, OTA requests that the NOSB Livestock Committee wait for completion of the TAP review on gelatin before making a decision on recommending its allowance.

Headquarters: 60 Wells Street, P.O. Box 547, Greenfield, MA 01302 USA • (413) 774-7511
fax: (413) 774-6432 • e mail: info@ota.com •web site: www.ota.com
Washington Office: 205 South Whiting Street, Suite 308, Alexandria, VA 22304 USA • (202) 3[illegible]

(12)

Keating, Mark

[redacted]

Livestock, NOSB
Wednesday, January 23, 2002 [redacted]
To: Eric Sideman; Keating, Mark
Subj: FW: Livestock Feed Ingrd Comments

From: Bakker, Brett[SMTP:BRETT.BAKKER@STATE.NM.US]
Sent: Wednesday, January 23, 2002 11:28:06 AM
To: Livestock, NOSB
Subject: Livestock Feed Ingrd Comments
Auto forwarded by a Rule

Comments on NOSB Livestock Committee
Draft Recommendations on Livestock Feed Ingredients 10/15/01

I. Regulatory Basis for synthetic vitamins & minerals

Disagree.
Blanket approval of CFR and AAFCO listing runs counter to the very spirit of Certification, leaving our job in the hands of people who may have little or no experience or interest in organics. How can we depend on them to work in the interest of organics?
Unless NOSB is prepared to approve each & every CFR/ AAFCO approval and its Allowability, Organic Certification is left wide open to a loss of integrity.

Carriers in Feed Additives & Supplements

Disagree.
The question here is not carrier function or nutritional composition but (like every other material approved for Certification) its source and organic status. Among other things, not establishing requirements leaves the window wide open for use of GMO soy or corn as carriers. With the threat of GMOs growing & that threat to organic integrity, carrier guidelines must be established along the lines of any other input material.

III. Feed Preservatives

Concur

IV. Definition of mammalian & poultry slaughter by-product

Disagree.
Without having access to the AAFCO Official Publication cited in the Recommendation, it's difficult to address this but it should be made clear that "no mammalian or poultry slaughter by-products" in feed means just that, in any form or formulation, period.
The allowance of gelatin appears to be a concession to the industry. Why is it excepted from the ruling? As a by-product, it should not be allowed.

V. Enzymes as Feed Ingredients

Concur.

VI. Probiotics

Concur.

VII. Synthetic nonagricultural substances ingredients allowed as feed additives

Concur.

Brett Bakker

Chief Inspector, New Mexico Organic Commodity Commission [redacted]
representing the concerns & direction of the Commissioners the
well as myse[redacted]
24/02

Northeast Organic Dairy
Producers Alliance
C/o NOFA-VT Dairy Tech
PO Box 697
Richmond, VT 05477
Lmccrory@together.net

National Organic Standards Board
Livestock Committee
NOSB.Livestock@usda.gov

January 24, 2002

Public Comment on Draft Recommendations on Livestock Feed Ingredients

NODPA is grateful for the opportunity to provide comments on the NOP Livestock Feed Ingredients. We feel this is a very important issue and worthy of discussion and feedback. Thanks go to the NOSB Livestock Committee for their thorough and thoughtful work.

I Regulatory Basis for synthetic vitamins and minerals

NODPA is in favor of the Board recommendation

II Carriers in Feed Additives and Supplements

NODPA is in favor of the Board recommendation, but also suggest that there be a limit to the amount of carriers in a feed additive or supplement and that it should compose less than 5% of the total formulated feed. Additives and Supplements that contain only allowed (organic) carriers may be fed free choice.

III Preservatives in Formulated Feed and Feed Ingredients

NODPA is in favor of the Board recommendation.

IV Definition of mammalian and poultry slaughter by-products

NODPA is in favor of the Board recommendation. We do realize that gelatin is currently under TAP review for processing and would be interested in the findings of that review. What are options to gelatin and how do those alternatives compare in availability and price?

V Enzymes as Feed Ingredients

NODPA is in favor of the Board recommendation.

VI Probiotics as Feed Ingredients

NODPA is in favor of the Board recommendation

VII Synthetic nonagricultural substances ingredients allowed as feed additives

NODPA is in favor of the Board recommendation

(14)

Northeast Organic Farming
Association of Vermont
PO Box 697
Richmond, VT 05477
Info@nofavt.org

National Organic Standards Board
Livestock Committee
NOSB.Livestock@usda.gov

January 24, 2002

Public Comment on Draft Recommendations on Livestock Feed Ingredients

NOFA-VT is grateful for the opportunity to provide comments on the NOP Livestock Feed Ingredients. We feel this is a very important issue and worthy of discussion and feedback. Thanks go to the NOSB Livestock Committee for their thorough and thoughtful work.

I Regulatory Basis for synthetic vitamins and minerals

NOFA-VT is in favor of the Board recommendation provided restrictions to the AAFCO list are made. These restrictions should be: mammalian and poultry slaughter by-products, as cited, and the certain synthetic nitrogen sources (listed by OMRI) that should be reviewed by the NOSB before adding to the National List. The synthetic nitrogen sources that should be reviewed are:
57.27 Ammonium sulfate
57.75 Ethylenediamine Dihydriodide
57.150 Metal Amino Acid Complex
57.151 Metal (specific amino acid) complex
57.142 Metal Amino Acid Chelate
57.23 Metal proteinate
57.22 Ammonium Polyphosphate Solution
57.16 Diammonium phosphate
57.33 Monoammonium phosphate
57.143 Zinc Chloride Diammine comples
90.24 Menadione forms

II Carriers in Feed Additives and Supplements

NOFA-VT is in favor of the Board recommendation, but also suggest that there be a limit to the amount of carriers in a feed additive or supplement and that it should compose less than 5% of the total formulated feed. Additives and Supplements that contain only allowed (organic) carriers may be fed free choice.

III Preservatives in Formulated Feed and Feed Ingredients

NOFA-VT is in favor of the Board recommendation.

IV Definition of mammalian and poultry slaughter by-products

NOFA-VT is in favor of the Board recommendation. We do realize that gelatin is currently under TAP review for processing and would be interested in the findings of that review. What are options to gelatin and how do those alternatives compare in availability and price?

V Enzymes as Feed Ingredients

NOFA-VT is in favor of the Board recommendation.

VI Probiotics as Feed Ingredients

NOFA-VT is in favor of the Board recommendation

VII Synthetic nonagricultural substances ingredients allowed as feed additives

NOFA-VT is in favor of the Board recommendation

15

Comments of Consumers Union
on
National Organic Standards Board Livestock Committee's
Draft Recommendation on Livestock Feed Ingredients
(October 15, 2001)

Consumers Union appreciates the opportunity to comment on the National Organic Standards Board (NOSB) Livestock Committee recommendations on livestock feed ingredients drafted on October 15, 2001. We support the NOSB Livestock Committee's effort to define specific elements of livestock feed ingredients in organic production.

The following are our comments for changes to the current proposal for livestock feed ingredients that we believe are necessary to maintain the integrity of the meaning of organic to consumers.

Section 205.237 of the organic rule states that, "An organic operation must provide livestock with a total feed ration composed of agricultural products including pasture and forage, that are organically produced and handled." This mandate must be implemented at all levels of livestock organic production.

I. Regulatory basis for synthetic vitamins and minerals
Consumers Union supports the explicit prohibition of bone meal and bone derived products from mammalian and poultry by-products in organic livestock feed.

II. Carriers in feed additives and supplements
We do not support the NOSB recommendation that the NOP should not establish requirements for agricultural products used as carriers in feed ingredients. While carriers may not meaningfully affect the nutritional composition of the feed ration, the source of the carrier can affect the organic integrity of the feed. Without regulation, there is a high risk that carriers could be derived from agricultural sources that are genetically modified (e.g. corn and soy) or pesticide-treated. These methods are otherwise prohibited in organic production and exemptions to this undermine the meaning and integrity of organic. Consumers Union strongly urges the NOSB Livestock Committee to regulate the source of carriers to be from only organic sources.

III. Preservatives in formulated feed and feed ingredients

Consumers Union supports the NOSB recommendation that ingredients used as food preservatives be addressed on a case by case basis.

IV. Definition of mammalian and poultry slaughter by-products

Consumers Union supports the explicit prohibition of mammalian and poultry by-products in organic livestock feed. Since the AAFCO Official Publication is not freely available, Consumers Union could not specifically evaluate the AAFCO guidelines. However, Consumers Union strongly urges the NOSB to regulate the source of gelatin, used as a carrier for feed ingredients, to be from only organic sources.

Consumers Union supports the NOSB Livestock Committee recommendations for sections V, VI, and VII.

(16)

Organic Materials Review Institute
January 24, 2002

Comments on NOSB Draft Recommendation on
Livestock Feed Ingredients, October 15, 2001

General:
OMRI appreciates the opportunity to comment on this proposal for clarification of the NOP livestock feed ingredients regulation. Organic animal nutrition is based on the principle that dietary requirements of animals are provided from certified organic sources, including vitamins and minerals. Non-organic vitamins and minerals as feed additives have long been used on a restricted basis. The initial NOSB recommendation of 1995 endorsed the idea that the "producer's farm plan should reflect attempt to decrease or eliminate use of (synthetic) feed additives when possible." However, the NOSB also suggested allowing synthetic vitamins and minerals in keeping with the NRC recommendations and specific uses referenced by the Association of American Feed Control Officials (AAFCO), with a caveat that NOSB (TAP) might want to specifically review a material that appears in conflict with organic principles.

There are problems with any categorical listing of approved sources for vitamins and minerals: those approved by either FDA or AAFCO may conflict with the organic rules or OFPA in the following areas:

1) Those derived from genetically modified organisms (corn, soybeans, microorganisms, etc). The NOSB recommendations on genetic engineering did consider the use of GMO sources of vitamins. The NOP Final Rule excludes GMOs and their derivatives [7 CFR 205.105(e)].
2) Those derived from mammalian slaughter by-products.
3) Carriers and fillers used to deliver the vitamin or mineral may contain genetically modified organisms, slaughter by-products, and synthetic preservatives.
4) The OFPA also prohibits the synthetic nitrogen source urea, and OMRI believes that the intent was to prohibit all forms of synthetic nitrogen, which can replace organic sources of crude protein.

Furthermore, AAFCO does not reflect the NOP rule requirement at 205.237(b)(2) that producers must not "provide feed supplements or additives in amounts above those needed for adequate nutrition and health maintenance for the species at its specific stage of life." This was also specified in the OFPA at 7 USC 6509(c)(3).

OMRI considers access to a well-managed pasture a key component of organic animal nutrition. Most vitamins and minerals can be supplied in abundant form by access to a well-balanced diet composed of whole organic fodder and forage. Synthetic supplements should not be used as a substitute for access to pasture, exposure to sunlight, and balanced organic feed. By the same token, synthetics should not be allowed beyond what is needed to maintain animal health. However, organic livestock producers do need to supplement animals' diets with needed vitamins and minerals, particularly in winter, in some regional conditions, and when forage and available feed is not optimal in nutrient levels.

Health Care Use: The FDA recognizes that various nutrients also have therapeutic roles, and regulates these substances as animal drugs rather than as feed additives when administered by certain methods (e.g., injection) or above certain levels. In particular, iodine and selenium have the smallest margin between debilitating deficiency and toxic excess. While there is no question that these two nutrients are absolutely necessary, and for the sake of animal welfare as well as the economic sustainability of a farm, and that non-organic sources need to be allowed, their use is regulated by the FDA and needs to be monitored more closely than most other supplements. *The NOP rule makes no allowance for vitamins and minerals used as health care treatments.* On the advice of veterinarians on our Advisory Council, OMRI currently allows any form of FDA or AAFCO approved vitamin or mineral when used for diagnosed illness. This will require an addition to 205.603 (a).

1 Forms of "FDA Approved" Vitamins and minerals

Currently OMRI lists FDA approved vitamins and minerals, as listed in 21 CFR as "Regulated" in the *OMRI Generic Materials List* with the exception of forms containing synthetic nitrogen or sulfites as we considered those limited by OFPA. OMRI also considers nonsynthetic (natural) vitamins and mineral sources that are listed in AAFCO, and specific materials which appear on the National List for processing at 205.606-205.606 to be approved for livestock. We find this to provide extensive options for all needed vitamins and minerals, and do not see a necessity to extend this list further, e.g. to include all AAFCO listed minerals, without further scrutiny (i.e., a petition and review process). Please see the attached Appendix table that compares available sources of nutrient vitamins and minerals. FDA has a higher standard of scrutiny, and data review for materials listed in 21 CFR than granted discretionary allowance via AAFCO. While there are problems with some forms of materials listed in 21CFR also, we still think that it is logical to limit the initial approved list to those listed in 21CFR and clearly identify the allowed natural materials listed in AAFCO as permitted. Some additional AAFCO listed forms are potentially compatible with the OFPA and the NOP Final Rule.

Problems with the AAFCO list:
OMRI believes the following materials should be specifically reviewed by the NOSB before adding to the National List, as they contain synthetic nitrogen sources, have readily available natural alternatives, or are not recommended by NRC. AAFCO officials have indicated that their definitions of metal proteinates, metal amino acid chelates, and metal amino acid complex need revision to improve their accuracy.

57.150 Metal Amino Acid Complex. These are not well-defined substances, and potentially can represent sources of synthetic amino acids that have been rejected by the NOSB.

57.151 Metal (specific amino acid) complex. Standard of identity is not well defined; alternate sources are available for all these metals.

57.142 Metal Amino Acid Chelate. Standard of identity is not well defined; alternate sources are available for all these metals

57.23 Metal proteinate – These are not well-defined substances, and potentially can represent sources of synthetic amino acids rejected by the NOSB.

57.22 Ammonium Polyphosphate Solution synthetic nitrogen source, highly restricted by AAFCO.

57.33 Monoammonium phosphate – synthetic nitrogen source, highly restricted by AAFCO.

57.143 Zinc Chloride Diammine complex – synthetic nitrogen form, other salts of Zinc available

Several materials in the AAFCO list of recognized vitamin sources at 90.25 are derived from fish sources, (cod, salmon, tuna, shark liver oils). These should be allowed as natural, non-organic sources of vitamins, along with wheat germ oil.

Problems with 21CFR list

57.27 Ammonium sulfate – not needed as a sulfur source, AAFCO places many restrictions on use, and is derived from synthetic nitrogen sources. Contains 21% N and 24% S. This is listed in 21CFR at 582.1143.

57.75 Ethylenediamine Dihydriodide. (EDDI) This material is limited by FDA and considered a new animal drug above levels of 10 mg/head/day for cattle. It is an amine formulation and derived from synthetic nitrogen sources. Natural sources are available for iodine, including seaweed and mined sources. Listed at 21CFR 582.80.

57.16 Diammonium phosphate – synthetic nitrogen source, highly restricted by AAFCO. Listed at 21 CFR 573.320

21 CFR 582.1141. Ammonium phosphate - synthetic nitrogen source, not listed by AAFCO except as monoammonium phosphate (57.33)

90.25 Menadione forms; including Menadione dimethylpryimidinol bisulfite (21CFR 573.620), menadione nicotinamide bisulfite (21CFR 573.625), menadione sodiuim bisulfite complex. These are sources of Vitamin K, which NRC guidelines state are not necessary for ruminants. NOSB should expressly list these for poultry only

OMRI's recommendation: NOSB should initially recommend to allow vitamins and minerals listed in 21CFR, also those AAFCO listed sources that are from non synthetic sources, and those permitted in organic food processing. NOSB should also consider commissioning TAP reviews to provide more guidance to certifiers and producers on the approved forms of vitamins and minerals.

2. Carriers and Feed Additives and Supplements

OMRI supports this reasonable NOSB position that provides for incidental carriers of agricultural sources. However a definition is needed to clarify an allowable level of non-organic carriers and to reiterate that genetically modified organisms are prohibited. We suggest that NOSB adopt the AAFCO definition:

> Carriers: An edible material to which ingredients are added to facilitate uniform incorporation of the latter into feeds .The active particles are absorbed, impregnated or coated into or onto the edible material in such a way as to physically carry the active ingredient.

OMRI sets a threshold that carriers must compose less than 5% of the total formulated feed, or else would be considered a feed nutrient.

The NOSB draft could be strengthened by recommending a limit on total percentage of non-organic carriers. It also needs to address the non-GMO requirement - which is typically a bigger problem. "Carriers" can be considered as the following:

a) Incidental ingredients such as sucrose, starch and oils may be added to the individual vitamin ingredients that may be formulated into multi-vitamin and mineral supplements. These incidental ingredients are difficult to track and verify as natural and non-GMO and do not appear on the feed label. OMRI recommends that these agricultural incidentals should be considered as allowed substances and should not be scrutinized as ingredients. Preservatives included with individual vitamins would not be considered as allowed, without specific review and addition to the National List. Further parameters may need to be evaluated in order to clearly define an incidental ingredient.

b) Carriers mixed into feed supplements to produce the final product (e.g. multi-vitamin and mineral supplement, or probiotic mixture) should be considered allowed if they are non-organic agricultural substances, and verified to be produced without use of excluded methods. Some livestock feed supplement products have made the effort to use only organic carriers, which should be encouraged. A requirement for these added carriers to be non-GMO will provide incentive for using organic carriers when available. OMRI lists these products as "Allowed" and those with non-organic carriers as "Regulated." OMRI also recommends that only Allowed products may be fed free choice.

3. Preservatives in Formulated Feed
OMRI supports this position, that synthetic preservatives need to be on the National List and reviewed on a case-by-case basis. Synthetic preservatives are usually "hidden" ingredients in vitamin packs. Organic growers may be feeding these ingredients without their knowledge. Certifiers reviewing products need to be aware of this as well. Synthetic preservatives such as ethoxyquin and BHT are commonly used. These specific substances do not appear on the National List, are clearly not vitamins or minerals, and are generally considered incompatible with principles of organic production and handling.

4. Definition of mammalian and poultry slaughter by-products
This list of slaughter by-products is a reasonable start. This guideline is a helpful list to operators and certifiers of what to clearly avoid, but it should not be regarded as either a comprehensive list of slaughter by-products or an exhaustive list of sources prohibited under this provision.

Since gelatin is currently under TAP review for processing, OMRI believes that the decision should be based on the outcome of the TAP review. Many organic consumers and some certifiers have indicated concern about gelatin as an ingredient. The NOSB should not make a decision about gelatin in feed until it has considered the TAP review for gelatin in processing and has made a recommendation based on the OFPA 6518(m) criteria.

5. Enzymes
The AAFCO list at 30.1 is suitable, provided GMO sources are excluded. It would be helpful to clarify that NOP does not consider the substrate used to produce an enzyme as part of the feed product. OMRI does not consider substrate material to be part of the enzyme product. Commonly enzymes and direct fed micro-organisms (probiotics) are raised on media containing non-organic

nutrients (and could include GM derived substance, such as corn starch), but we do review to see that these are all consumed and not present in the final product.

6. Probiotics
OMRI agrees that the AAFCO list of direct fed microorganisms at 36.14 is appropriate for allowance in organic livestock feed, provided not derived from GE sources. Again, OMRI does not consider substrate material to be part of the enzyme product, provided it is consumed in production and no prohibited materials are re-introduced to the final product as stabilizers, etc.

7. Synthetic non-agricultural substances allowed in processed food
OMRI reaffirms its support of this policy. Any substance that has been specifically reviewed and permitted for consumption in human organic food should be permitted as a feed additive for organic livestock, provided it has FDA or AAFCO sanctioned use and is not a slaughter by-product.

Submitted by:
Organic Materials Review Institute
Box 11558, Eugene OR 97440

Brian Baker, Research Director
Emily Brown Rosen, Policy Director
Cindy Douglas, Product Review Coordinator

Vitamin Activity	Source or Ingredient	Listed in AAFCO 2002	21CFR	Note- Source	✓ Considered Permitted by OMRI[1]
				evaporated.	
Vitamin B_{12} supplement		90.11		Minimum B_{12} activity of 1.5 mg/lb	Depends on source
Vitamin B complex	Inositol		582.5370	Vitamin B complex, Lipotropic. Also called I-inositol, ormeso-inositol. Chemical name is cylclheandeheol.	✓
Biotin	Biotin		582.5159	Fumaric acid is brominated and then treated with solvents and sulfur.	✓
Choline	Choline bitartrate		582.5250	Synthetic.	✓
			582.5252	Synthetic.	✓
				Crystalline choline pantothenate, Commercial feed grade	
	Choline xanthate		573. 300	Only for poultry, ruminants, swine	✓
	Betaine (hydrochloride or anhydrous)	90.17		A partial replacement for choline	
Folate	Folic acid, crystalline folic acid feed grade	90.25	*	Voted on separately by NOSB (Austin, 1995) . Chemical synthesis from acetone, guanidine, and glutamic acid.	✓
Niacin	Nicotinic acid		582.5530		✓
	Niacinamide, nicotinamide		582.5535		
	Niacin supplement	90.16		Feed term that indicates either Niacin or Niacinamide	
Pantothenic acid	Calcium pantothenate		582.5212		✓
	Sodium pantothenate		582.5772	Synthetic.	✓
Vitamin C	Ascorbic acid		582.5013	Culture fermentation from dextrose. Extracted and purified by using synthetic acidulants. The Reichstein process hydrogenates D-glucose to D-sorbitol. The D-sorbitol is microbiologically oxidized to form L-sorbose. L-sorbose is reacted with acetone to form an intermediate that is oxidized and treated with hydrochloric acid to form L-ascorbic acid. Added to the National List by separate review and recommenedation	✓
Vitamin C	Calcium -L Ascorbyl-2-Monophosphate , Magnesium L-ascorbyl-2 phosphate, L-Ascorbyl-2-sulfate,	90.25			

Vitamin Activity	Source or Ingredient	Listed in AAFCO 2002	21CFR	Note- Source	Considered Permitted by OMRI[1]
Vitamin C	L-ascorbyl –2-polyphosphate	90.25		Stabilized Ascorbic Acid Feed Grade, AAFCO restricts to aquatic species, guinea pig, primate (non-human)	
Vitamin D	Vitamin D_2 (calciferol)		582.5950		✓
	Vitamin D_2 supplement	90.4		Feeding material used for Vitamin D activity, must have min. 100,000 IU/lb	Depends on source
	Vitamin D_3 (cholcalciferol)		582.5953		✓
	Vitamin D_3 supplement	90.15		Feeding material used for Vitamin D_3 activity, must have min. 100,000 Int. Chick Units/lb	Depends on source
Vitamin E	Tocopherol*		582.5890	Vitamin E must contain a minimum vitamin E activity of 10,000 IU of vitamin per pound.	✓
Vitamin K	Menadione Dimethylpyrimidi-nol bisulfite		573.620	NRC states not required for ruminants	✓ not for ruminants
	Menadione nicotinamide bisulfite		573.625	Also supplements niacin. AAFCO limits rate for chicken and turkey: 2g/ton Swine 10g/ton	✓
	Menadione Sodium bisulfite complex	90.25		AAFCO restricts: Poultry only, 2-4 g/ton	

*Received a separate TAP review for non-supplemental use as other than a dietary supplement

Livestock Mineral Supplements

Mineral	Source or Ingredient	Listed in AAFCO 2002	21CFR	Notes	Considered Permitted by OMRI[2]
Calcium	Calcium bitartate		582.5250		✓
	Calcium carbonate		582.5191		✓
			582.5195	Non-synthetic	
	Calcium glycerophosphate		582.5201		
	Calcium lactate		582.1207		
	Calcium oxide		582.5210		
				Not cle	
	Monocalcium phosphate	57.98		Listed at 205.605(b)(7)	
	Dicalcium phosphate	57.71		Listed at 205.605(b)(7)	
	Tricalcium phosphate	57.113		Listed at 205.605(b)(7)	
			582.5223		✓
			582.5230		✓
		57.3			✓
Calcium	Bone ash Bone charcoal Bone charcoal spent Bone meal cooked Bone meal steamed Bone phosphate			Animal slaughter products, prohibited	
Calcium	Calcium carbonate precipitated			synthetic	
	Calcium chloride	57.51		Approved at 205.605(a)(4) natural	✓
	Calcium formate	T57.152		AAFCO restricts for swine and states "currently considered an unapproved food additive and a food additive petition must be approved before its use in feeds"	
		57.53		Synthetic, Approved at 205.605(b)(6)	
	Chalk, precipitated	57.8		c	

Mineral	Source or Ingredient	Listed in AAFCO 2002	21CFR	Notes	Considered Permitted by OMRI[2]
	Chalk, rock	57.6		Natural	✓
	Clam shells, ground	57.131		Natural	
	Gypsiferous shale	57.30		Natural	✓
Calcium	Limestone, dolomitic			Natural	✓
	Limestone ground				
	Oyster shell flour				
	Phosphate rock, ground				
	Phosphate rock, ground, low fluorine				
	Phosphate rock, soft	57.15			
	Shell flour	57.5			
	Cobalt acetate		582.80		✓
			582.80		✓
			582.80		✓
					✓
					✓
	Cobalt amino acid chelate	57.142			
	Cobalt amino acid complex	57.150			
	Cobalt choline citrate complex	57.123			
		57.148			
		57.147			
Copper	Copper carbonate		582.80		✓
	Copper chloride		582.80		✓
	Copper gluconate		582.5260	At a level not exceeding 0.005%.	✓
	Copper hydroxide		582.80		✓
	Copper orthophosphate		582.80		✓
	Copper oxide		582.80		✓
	Copper pyrophosphate		582.80		✓
	Copper sulfate				✓
	Cuprous iodide		582.80		✓
	Copper lysine complex	57.151			
Copper	Copper amino acid chelate				
	Copper choline citrate complex	57.122			
	Copper polysaccharide complex	57.29			
	Copper choline citrate complex	57.122		Soluble copper salt complexed with choline dihydrogen citrate	

Mineral	Source or Ingredient		21CFR	Notes	Considered Permitted by OMRI[2]
				Copper salt of acetic acid	
Iodine	Calcium iodate		582.80		✓
	Calcium idobehenate		582.80		✓
	Cuprous iodide		582.80		✓
	3,5 Diodosalicilic acid		582.80		✓
			582.80	Restricted in cattle to feed levels no higher than 10mg /head per day.	
			582.80		✓
	Potassium		582.80	Both synthetic and non-synthetic	✓
			582.80		✓
			582.80		✓
	Thymol iodide		582.80		✓
	Iodized salt	57.13			Depends on source of iodide
Iron	Ferric phosphate		582.5301		✓
	Ferric pyrophosphate		582.5304		✓
	Ferrous lactate		582.5311		✓
	Ferrous sulfate		582.5315		✓
	Iron carbonate		582.80		✓
	Iron chloride		582.80		✓
	Iron gluconate (Ferrous gluconate)	57.79	582.80		✓
	Iron oxide		582.80		✓
			582.80		✓
			582.80		✓
			582.80		✓
			582.80		✓
			582.20		
	Ferric ammonium citrate	57.76			
	Ferric chloride	57.78			
	Ferric choline citrate complex	57.121			
	Ferric formate	57.127			
	Ferric carbonate				
		57.128			
	Ferrous fumarate	57.75			
		57.139			

Mineral	Source or Ingredient	AAFCO 2002	21CFR	Notes	
	Iron amino acid chelate	57.142			
	Iron polysaccharide complex	57.29			
	Iron proteinate	57.23			
Magnesium	Magnesium carbonate		582.1425		✓
	Magnesium hydroxide		582.1428		✓
	Magnesium oxide		582.1431 582.5431		✓
	Magnesium sulfate		582.5443		✓
	Limestone, magnesium	57.11		Natural	✓
	Magnesium chloride	57.126		On NOP list at 205.605(b)(17)	✓
	Magnesium mica	57.24		Natural	✓
	Magnesium proteinate	57.23			
Manganese	Manganese acetate		582.80		✓
	Manganese chloride		582.5446		✓
	Manganese citrate		582.5449		✓
	Manganese gluconate		582.5452		✓
	Manganese glycerophosphate		582.5455		✓
	Manganese hypophosphate		582.5458		✓
	Manganese orthophosphate		582.80		✓
	Manganous oxide		582.80		✓
	Manganese phosphate		582.80	Dibasic	✓
	Manganese sulfate		582.5461		✓
	Manganese amino acid chelate	57.142			
	Manganese amino acid complex	57.150			
	Manganese methionine complex	57.151			
	Manganese proteinate	57.160			
Phosphorous	Calcium glycerophosphate		582.5201		✓
	Calcium phosphate		582.1217		✓
	Monocalcium phosphate	57.98			✓
	Dicalcium phosphate				✓
	Tri calcium phosphate				✓
	Calcium pyrophosphate		582.5223		✓
	Potassium glycerophosphate		582.5628		✓
	Sodium acid pyrophosphate		582.1087		✓
	Sodium aluminum phosphate		582.1781		✓
			582.5778		✓
					✓

Mineral	Source or Ingredient	Listed in AAFCO 2002	21CFR	Notes	Considered Permitted by OMRI[2]
	Disodium phosphate	57.33		205.605(b)(33)	✓
Phosphorous	Trisodium phosphate. Tribasic sodium phosphate	57.125		205.605(b)(33)	✓
	Sodium tripolyphosphate		582.1810		✓
	Ammonium phosphate		582.1141	Not listed by AAFCO	
	Ammonium polyphosphate solution	57.22		Contains at least 7% N	
	Monoammonium phosphate	57.33		Contains at least 9% nitrogen	
	Diammonium phosphate		573.320	Contains at least 17% N. FDA restricts: Must not supply more than 2% of crude protein	
	Bone meal,cooked Bone meal steamed Bone phosphate	57.141 57.18 57.14		Slaughter products, prohibited	
	Phosphate, defluorinated	57.12		Synthetic	
	Phosphoric acid	57.19		Synthetic	
	Rock phosphate, ground	57.20		Natural	✓
	Rock phosphate ground, low fluorine	57.21		Natural	✓
	Rock phosphate, soft	57.15		Natural	✓
	Ammonium polyphosphate				
	Sodium hexametaphosphate	57.132		Sodium salt of phosphoric acid	
Potassium	Potassium bicarbonate		582.1613		✓
	Potassium carbonate		582.1619.		✓
	Potassiusm bisulfite	18.1 Chemical preservatives	582.3616	Sulfite form, a common preservative	
	Potassium chloride	57.102		Natural, listed at 205.605(a)(15)	✓
	Potassium citrate		582.1625		✓
	Potassium gluconate	T57.162 proposed 2000		Potassium salt of gluconic acid	
	Potassium glycerophosphate		582.5628		✓
	Potassium hydroxide		582.1631		✓

Mineral	Source or Ingredient	Listed in AAFCO 2002	21CFR	Notes	Considered Permitted by OMRI[2]
	Potassium metabisulfite	18.1 Chemical preservatives	582.3637	Sulfite form, a preservative	
	Potassium sorbate	18.1 Chemical preservatives	582.3640	A preservative	
	Potassium sulfate		582.1643		✓
Selenium	Sodium selenate		573.920	FDA restricts use	✓
	Sodium selenite		573.920	FDA restricts use	✓
Sulfur	Calcium sulfate		582.5230		✓
	Cobalt sulfate		582.80		✓
	Copper sulfate		582.80		✓
	Ferrous sulfate		582.5315		✓
	Iron sulfate		582.80	Synthetic	✓
	Magnesium sulfate		582.1425	Synthetic	✓
	Potassium sulfate		582.1643		✓
	Sodium sulfate		582.80		✓
	Sulfur (elemental)	57.111		Most sources are synthetic	
	Sulfuric acid		582.1095	Prohibited in organic processing	
	Zinc sulfate		582.80		✓
Sodium	Sodium acetate		582.1721		✓
	Sodium acid pyrophosphate		582.1087		✓
	Sodium aluminum phosphate		582.1781		✓
	Sodium caseinate		582.1748		✓
	Sodium bicarbonate	57.106		Natural, Listed at 205.605(a)(17)	✓
	Sodium carbonate	57.133		Natural, Listed at 205.605(a)(18)	✓
	Sodium chloride				✓
	Sodium citrate		582.1751		✓
	Sodium hexametaphosphate	57.132			
	Sodium hydroxide		582.1763		✓
	Sodium pectinate		582.1775		✓
	Sodium phosphate		582.5778		✓
	Monosodium phosphate	57.99		Listed at 205.605(b)(33)	✓
	Disodium phosphate	57.33		Listed at 205.605(b)(33)	✓

Mineral	Source or Ingredient	Listed in AAFCO 2002	21CFR	Notes	Considered Permitted by OMRI[2]
Sodium	Trisodium phosphate (Tribasic sodium phosphate)	57.125		Listed at 205.605(b)(33)	✓
	Sodium sulfate		582.80		✓
	Sodium sesquicarbonate	57.138			
	Sodium tripolyphosphate		582.1810		✓
Zinc	Zinc acetate		582.80		✓
	Zinc carbonate		582.80		✓
	Zinc chloride		582.5985		✓
	Zinc chlorine diammine complex	57.143			
			582.5988		✓
			582.5991		✓
			582.5994		✓
	Zinc sulfate		582.5997		✓
	Zinc amino acid complex	57.29			
	Zinc amino acid chelate	57.143			
	Zinc lysine complex	57.151			
	Zinc methionine complex	57.151			
	Zinc polysaccharide complex	57.29			
	Zinc proteinate	57.23			

Note: the 1995 TAP review did not cover chloride, chromium, fluoride, potassium, silicon, and sodium. The National Academy of Sciences, National Research Council also recognizes these as nutrient minerals.

RESOURCES:

Aiello, S. E. ed. 1998 .Merck Veterinary Manual. Merck & Co. Inc. , Whitehouse Station NJ

AAFCO 2002. Official Publication of the Association of American Feed Control Officials. Oxford IN

Budaveri, S. Ed. 1996. The Merck Index. Merck & Co. Inc. Whitehouse Station NJ

Food and Drug Administration. 21CFR Part 573 and Part 582.

Martini. A. June 24, 1994 Memo " Organic Food Review" to Mr. Michael Hankin, NOP from Ms. Alison Martini, FDA, Division of Animal Feeds.

17

Keating, Mark

From: Jim Pierce [JimP@organicvalley.com]
Subject: Comments on Livestock Feed Ing. 10-15-01

The following comments do not speak literally for but are intended to reflect the general opinions of the 400+ certified organic farmer owners of the Organic Valley CROPP Cooperative. Our membership is very concerned that the National List of Approved Materials will not be to a workable state by in time for the October implementation particularly as it pertains to organic livestock production. Consensus is that these proposals go a long way toward exclusion of non critical material issues.

General Comments; This proposal is not a compromise but a solution to many of the issues causing overload stress at the NOSB regarding approval of materials onto the National List. If adopted these recommendations will categorically allow many materials that should be allowed without going through the petition process. Adoption of these recommendations would allow the energies of the NOSB as well as the trade to focus their energies on more prudent issues of material review.
Most, if not all of these materials are not a major concern to the integrity of organic livestock and the suggested language requires screening and review of lists in order to flush out any inappropriate materials.

Specific comments by section;
1) The key to this recommendation lies at the very end; The NOSB may determine that additional ingredients in Section 57 should be prohibited in organic production.
By adding this statement the NOSB is not rubber stamping the CFR or AAFCO lists, both of which are long and list some materials that are arguably objectionable and unnecessary for use in Organic systems. Screening and approval of these lists will be a formidable task for the NOSB who will no doubt have disagreements but this recommendation will allow them to move outside of the formal petition process. It will also safeguard the system in the future from materials being approved for organic use through the back door of AAFCO.

2) By categorically allowing carriers for functional purposes concerned parties can still petition for exclusion of questionable materials instead of having to petition dozens of benign carriers for inclusion.

3) This recommendation is further evidence that this is not a rubber stamp proposal to include everything that is currently in use. Preservatives are a legitimate concern to the organic community. In many cases organic processors have used alternative solutions to circumvent the use of preservatives and other incompatible practices.

4) In theory this section addresses a popular concern in organics; animal by products fed to livestock. In fact I wonder if this list of allowed and disallowed suggestions encompasses everything it needs to. One particular material that comes to mind is D-activated animal sterol, derived from lanolin, treated with UV light and used as a source of vitamin D in both livestock feed and processed food most notably milk. It is our opinion that D-activated animal sterol be included along with gelatin for clarification. There may be other examples as well.

5) No comment other than to support this recommendation.

6) No comment other than to support this recommendation.

7) This proposal has been discussed for some time now. All of the opinions that I am aware of are in favor of this proposal. It seems to be a no brainer, possibly a simple technical correction since the intent of the rule clearly is that approved materials are just that and are not approved only for animal or human application. It is an interesting paradox that livestock feed is required to be 100% organic when human feed qualifies at 95%.

Thank you for considering these comments

Jim Pierce
Certification Czar, Organic Valley CROPP Cooperative.